

REMARKS

By this Amendment, claims 10, 11, 22 and 23 are canceled, claims 1, 2, 9, 16, 20 and 21 are amended and new claim 24 is added, as indicated herein. Claims 12-15 were previously canceled pursuant to the Response To Restriction Requirement filed on July 3, 2003. Claims 3-8 and 17-19 remain as originally filed. As a result, claims 1-9, 16-21 and 24 are pending in the application. Independent claims 1 and 16 are amended to include additional limitations that patentably define the invention over the references of record. Dependent claim 2 is amended to incorporate limitations removed from base claim 1. Dependent claims 9 and 21 are amended to clarify the location of the "open cavity" defined by the guide block assembly. Dependent claim 20 is amended to correct an inadvertent typographical error.

Pursuant to paragraphs 2 and 3 of the Office Action, the abstract of the disclosure is objected to because the abstract should present only a single paragraph. Applicants have submitted a new abstract of the disclosure concurrently herewith on a separate sheet attached hereto as required under revised 37 C.F.R. §1.121(b) and 37 C.F.R. §1.72. The new abstract of the disclosure includes proper language and format and does not exceed 150 words.

Pursuant to paragraph 4, the drawings stand objected to under 37 C.F.R. §1.83(a) because they do not show each and every feature of the invention specified in the claims, and in particular, do not show the longitudinal slots formed around the fiber bores specified in claims 11 and 23. Claims 11 and 23 are canceled by this Amendment. Accordingly, Applicants submit that the objection is obviated and respectfully request the Examiner to withdraw the objection to the drawings.

Pursuant to paragraph 5, claim 20 stands objected to because the claim does not end in a period. Claim 20 is amended by this Amendment to end in a period. Accordingly, Applicants submit that the objection is obviated and respectfully request the Examiner to withdraw the objection to claim 20.

Pursuant to paragraphs 6 and 7, claims 16 and 17 stand provisionally rejected under 35 U.S.C. §101 as claiming the same invention as that of claim 9 of co-pending Application No. 09/621,226 (now U.S. Patent 6,663,377 issued December 16, 2003). Independent claim 16 is amended by this Amendment to include additional limitations that patentably define the claimed invention over claim 9 of U.S. Patent 6,663,377. Claim 17 depends directly from patentable base claim 16, and thus, includes the same patentable limitations. Accordingly, Applicants submit that the provisional rejection is obviated and respectfully request the Examiner to withdraw the rejection of claims 16 and 17 under 35 U.S.C. §101.

Pursuant to paragraph 8, claims 1-11, 16 and 18-23 stand provisionally rejected under the judicially created doctrine of obviousness-type double patenting as being unpatentable (obvious) over claim 9 of co-pending Application No. 09/621,226 (now U.S. Patent 6,663,377 issued December 16, 2003). Independent claims 1 and 16 are amended by this Amendment to include additional limitations that patentably define the claimed invention over claim 9 of U.S. Patent 6,663,377. Claims 2-9 depend directly or indirectly from patentable base claim 1, and thus, include the same patentable limitations. Claims 10 and 11 are canceled. Claims 18-21 depend directly or indirectly from patentable base claim 16, and thus, include the same patentable limitations. Claims 22 and 23 are canceled. Accordingly, Applicants submit that the provisional rejection is obviated and respectfully request the Examiner to withdraw the rejection of claims 1-11, 16 and 18-23 and under the judicially created doctrine of obviousness-type double patenting. In the event the Examiner does not agree that the amendments to base claims 1 and 16 patentably define the provisionally rejected claims, Applicants submit concurrently herewith a Terminal Disclaimer, signed by an attorney of record, for filing in the application to obviate the provisional double patenting rejection.

Pursuant to paragraph 10, claims 9 and 21 stand rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicants regard as the invention. In particular, the Examiner asserts that claims 9 and 21 are indefinite in the use of "behind," since no point of reference has been set forth in the claims to define exactly where "behind" is located. Claims 9 and 21 are amended by this

Amendment to clarify the location of the "open cavity" defined by the guide block assembly. Accordingly, Applicants submit that the indefiniteness rejection is overcome and respectfully request the Examiner to withdraw the rejection of claims 9 and 21 under 35 U.S.C. §112, second paragraph.

Pursuant to paragraphs 11 and 12, claims 1-5 and 16 stand rejected under 35 U.S.C. §102(e) as being anticipated by U.S. Patent 6,340,247 (Sakurai et al.). The Examiner asserts that "Sakurai et al. teach a unitary guide block assembly 114 having fiber bores 117 and guide pin bores 116, wherein the bores are formed by an EDM process, the bores being spaced from each other and being spaced from edges of the guide block assembly."

Applicants respectfully traverse the rejection with respect to independent claims 1 and 16, as amended herein. Sakurai et al. does not identically disclose (or even fairly suggest) that the unitary member further comprises a *front face defining a non-rectilinear surface* for forming a corresponding non-rectilinear surface on an end face of the ferrule. As clearly shown in FIGS. 8A-8D, the front face of the unitary member 114 of the guide block assembly is generally planar and rectilinear. Thus, claims 1 and 16 as amended herein are patentable. Claims 2-5 depend directly or indirectly from patentable base claim 1, and thus, are likewise allowable for at least the same reasons. Accordingly, Applicants submit that the rejection is overcome and respectfully request the Examiner to withdraw the rejection of claims 1-5 and 16 under 35 U.S.C. §102(e).

Pursuant to paragraph 13, claims 1-5 and 16 stand rejected under 35 U.S.C. §102(e) as being anticipated by U.S. Patent 6,342,170 (Yang). The Examiner asserts that "Yang teaches a unitary guide block assembly 60 having fiber bores 95 and guide pin bores 85, the bores being spaced from each other and being spaced from edges of the guide block assembly."

Applicants respectfully traverse the rejection with respect to independent claims 1 and 16, as amended herein. Yang does not identically disclose (or even fairly suggest) that the unitary member further comprises a *front face defining a non-rectilinear surface* for forming a corresponding non-rectilinear surface on an end face of the ferrule. As clearly shown in FIGS. 3

and 4, the front face of the unitary member 60 of the guide block assembly is generally planar and rectilinear. Thus, claims 1 and 16 as amended herein are patentable. Claims 2-5 depend directly or indirectly from patentable base claim 1, and thus, are likewise allowable for at least the same reasons. Accordingly, Applicants submit that the rejection is overcome and respectfully request the Examiner to withdraw the rejection of claims 1-5 and 16 under 35 U.S.C. §102(e).

Pursuant to paragraph 14, claims 1-5 and 16 stand rejected under 35 U.S.C. §102(e) as being anticipated by U.S. Patent 6,287,017 (Katsura et al.). The Examiner asserts that "Katsura et al. teach a unitary guide block assembly 103 having fiber bores 131 and guide pin bores 140, the bores being spaced from each other and being spaced from edges of the guide block assembly."

Applicants respectfully traverse the rejection with respect to independent claims 1 and 16, as amended herein. Katsura et al. does not identically disclose (or even fairly suggest) that the unitary member further comprises a *front face defining a non-rectilinear surface* for forming a corresponding non-rectilinear surface on an end face of the ferrule. As clearly shown in FIGS. 8-10, the front face of the unitary member 103 of the guide block assembly (absent the pins 101 and 102) is generally planar and rectilinear. Thus, claims 1 and 16 as amended herein are patentable. Claims 2-5 depend directly or indirectly from patentable base claim 1, and thus, are likewise allowable for at least the same reasons. Accordingly, Applicants submit that the rejection is overcome and respectfully request the Examiner to withdraw the rejection of claims 1-5 and 16 under 35 U.S.C. §102(e).

Pursuant to paragraphs 15-17, claims 6-8, 10, 18-20 and 22 stand rejected under 35 U.S.C. §103(a) as being unpatentable (obvious) over any one of Sakurai et al., Yang and Katsura et al. The Examiner asserts that "[e]ach of Sakurai et al., Yang and Katsura et al. disclose the guide block assembly substantially as claimed, except for explicitly disclosing the Length:Diameter ratio of the fiber bores, and except for disclosing a non-rectilinear front face surface." The Examiner further contends that "it would have been obvious to one of ordinary skill in the art at the time of the invention to modify any one of Sakurai et al., Yang, and Katsura

et al., by providing the L:D ratio within the claimed ranges, without undue experimentation, in order to optimize the support for the bore forming pin. Moreover, with regard to the non-rectilinear front face surface, ferrules having non-rectilinear surfaces are known in the art, and therefore it would have been obvious to a skilled artisan to have provided the molding front face of the guide block assembly with a corresponding non-rectilinear surface in order to produce a molded ferrule having a conventional non-rectilinear surface.”

Applicants respectfully traverse the rejection with respect to the claims as amended herein. None of Sakurai et al., Yang and Katsura et al. discloses or fairly suggests that the unitary member further comprises a *front face defining a non-rectilinear surface* for forming a corresponding non-rectilinear surface on an end face of the ferrule. As previously stated, the guide block assembly of Sakurai et al., Yang and Katsura et al. each comprise a unitary member defining a front face that is generally planar and rectilinear. As discussed in Applicants’ specification at page 13, lines 7-21, it is known to provide a non-rectilinear surface on the end face of a conventional ferrule. However, heretofore, such non-rectilinear surface has been formed by *grinding or polishing after molding*. A guide block assembly comprising a unitary member having a front face defining a rectilinear surface according to the claimed invention can produce a ferrule having a corresponding non-rectilinear surface on the end face of the ferrule *without* the need for grinding or polishing after molding. The precise perpendicular orientation of the fiber bores 32 relative to the front surface 24 of a guide block assembly formed by the wire EDM method of the present invention permits the front surface 24 to have the non-rectilinear surface milled or otherwise formed thereon, while maintaining the precise location of the fiber bores on the milled front surface 24. Specification at page 12, line 26 through page 13, line 1.

The guide block assembly of Sakurai et al., Yang and Katsura et al. and the method for manufacturing the guide block assembly disclosed therein do not provide the precise perpendicular orientation of the fiber bores relative to the front surface required to permit a non-rectilinear surface to be milled or otherwise formed on the front surface. As a result, the guide block assembly of Sakurai et al., Yang and Katsura et al. is incapable of molding a corresponding non-rectilinear surface on an end face of a multi-fiber ferrule with acceptable signal transmission

characteristics (e.g., back reflection, insertion loss, etc.). Therefore, it would not be obvious to modify the unitary member of the guide block assembly of Sakurai et al., Yang and Katsura et al. to comprise a front face defining a non-rectilinear surface. Thus, the invention of independent claims 1 and 16 is not obvious in view of the cited references. Claims 6-8 depend directly or indirectly from patentable base claim 1, and thus, are likewise allowable for at least the same reasons. Claims 18-20 depend directly or indirectly from patentable base claim 16, and thus, are likewise allowable for at least the same reasons. Claims 10 and 22 are canceled. Accordingly, Applicants submit that the rejection is overcome and respectfully request the Examiner to withdraw the rejection of claims 6-8, 10, 18-20 and 22 under 35 U.S.C. §103(a).

Pursuant to paragraph 18, claims 9 and 21 stand rejected under 35 U.S.C. §103(a) as being unpatentable (obvious) over any one of Sakurai et al., Yang and Katsura et al. in view of U.S. Patent 5,441,397 (Eriksen et al.). The Examiner asserts that "[e]ach of Sakurai et al., Yang and Katsura et al. disclose the guide block assembly substantially as claimed, except for a cavity behind the fiber bores," but that "Eriksen et al. disclose a guide block assembly having a cavity 21, 22 formed behind the fiber bores." The Examiner further contends that "it would have been obvious to one of ordinary skill in the art at the time of the invention to modify any one of Sakurai et al., Yang, and Katsura et al. by providing a cavity behind the fiber bores as disclosed in Eriksen et al., in order to provide a cavity for the resin and thereby form a support ridge in the molded ferrule product."

Applicants respectfully traverse the rejection with respect to the claims as amended herein. As discussed above, none of Sakurai et al., Yang and Katsura et al. discloses or fairly suggests that the unitary member further comprises a *front face defining a non-rectilinear surface* for forming a corresponding non-rectilinear surface on an end face of the ferrule. Thus, the invention of independent claims 1 and 16 is not obvious in view of the cited references. Claim 9 depends directly or indirectly from patentable base claim 1, and thus, is likewise allowable for at least the same reasons. Claim 21 depends directly or indirectly from patentable base claim 16, and thus, is likewise allowable for at least the same reasons. Accordingly, Applicants submit that the rejection is overcome and respectfully request the Examiner to withdraw the rejection of

claims 9 and 21 under 35 U.S.C. §103(a).

Pursuant to paragraph 19, claims 11 and 23 stand rejected under 35 U.S.C. §103(a) as being unpatentable (obvious) over any one of Sakurai et al., Yang and Katsura et al. in view of U.S. Patent 5,664,039 (Grinderslev et al.). The Examiner asserts that “[e]ach of Sakurai et al., Yang and Katsura et al. disclose the guide block assembly substantially as claimed, except for a plurality of longitudinal slots formed around the fiber bore,” but that “Grinderslev et al. disclose a guide block assembly having fiber bores and guide pin bores formed by an EDM process, and further including a plurality of longitudinal slots 240 formed around the bore.” The Examiner further contends that “it would have been obvious to one of ordinary skill in the art at the time of the invention to modify any one of Sakurai et al., Yang, and Katsura et al. by providing the fiber bores with longitudinal slots, as disclosed in Grinderslev et al., in order to reduce the insertion force of the pins into the bores while maintaining a tight fit.”

Applicants respectfully traverse the rejection with respect to the claims as amended herein. Claims 11 and 23 are canceled. Accordingly, Applicants submit that the rejection is overcome and respectfully request the Examiner to withdraw the rejection of claims 11 and 23 under 35 U.S.C. §103(a).

Applicants have reviewed the cited references and submit that none discloses or fairly suggests the claimed guide block assembly comprising a unitary member having at least one precision fiber bore formed therein by a wire EDM process and at least one guide pin bore formed therein, wherein the unitary member comprises a front face defining a non-rectilinear surface that is milled or otherwise formed on the unitary member after the precision fiber bore is formed. Thus, Applicants submit that new claim 24 resented for examination is also patentable.

CONCLUSION

In view of the foregoing amendments and these remarks, Applicants respectfully request the Examiner to withdraw the objections to the abstract of the disclosure and the drawings, and the objections and rejections to the claims, and to reconsider the application. This Amendment is fully responsive to the Office Action and is being timely filed along with a petition for 1-month extension of time and fee. Furthermore, this Amendment places the application in condition for immediate allowance. Accordingly, Applicants respectfully request the Examiner to issue a Notice of Allowability for the pending claims 1-9, 16-21 and 24. Applicants encourage the Examiner to contact the undersigned directly to further the prosecution of any remaining issues, and thereby expedite allowance of the application.

This Amendment does not result in any additional independent claims or total claims than paid for previously. Accordingly, **no fee for excess claims is believed to be due.** The Examiner is hereby authorized to charge any other fee due in connection with the filing of this response, including any excess claims fee due and the Terminal Disclaimer fee under 37 C.F.R. §1.20(d) of \$110, to Deposit Account No. 19-2167. If a fee is required for an extension of time under 37 C.F.R. §1.136 not already accounted for, such an extension is requested and the fee should likewise be charged to Deposit Account No. 19-2167. Any overpayment should be credited to Deposit Account No. 19-2167.

Respectfully submitted,



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